Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/11.7-12.2 GHz Bands	IB Docket No. 02-10

OPPOSITION TO PETITION OF PANAMSAT CORPORATION FOR RECONSIDERATION OR CLARIFICATION

ARINC Incorporated ("ARINC"), pursuant to Section 1.429(f) of the Commission's Rules, 47 C.F.R. § 1.429(f), respectfully submits this Opposition to the Petition for Reconsideration or Clarification filed by PanAmSat Corporation ("PanAmSat") on March 2, 2005 (the "PanAmSat Petition"), which requests reconsideration or clarification of certain aspects of the Commission's Report and Order, FCC- 04-286, released January 6, 2005, in this proceeding (the "*ESV Order*"). ARINC respectfully urges the Commission to dismiss or deny PanAmSat's requests.[1]

[1] By contrast, ARINC agrees with The Boeing Company's Petition for Partial Clarification or Reconsideration of the *ESV Order* regarding: (1) the off-axis EIRP levels of ESV transmissions; (2) the methodology for calculating the aggregate off-axis EIRP of simultaneously transmitting ESVs; (3) the response time associated with ESV tracking exceedance; and (4) the establishment of a 300 km demarcation line for prior agreement for foreign-licensed Ku-band ESV operations throughout the entire 14.0-14.5 GHz band. *See* Petition for Partial Clarification or Reconsideration of The Boeing Company, IB Docket No. 02-10 (filed Mar. 2, 2005). Clarification and reconsideration of these issues is consistent with Commission policies and is necessary to ensure that U.S.-licensed ESV operators are able compete effectively in the global market.

PanAmSat asks that the Commission: (1) "clarify that ESV applicants are required to demonstrate that they can achieve the required pointing accuracy" in their license applications[2]; (2) require that ESV operators "cease transmissions when the transmitting antenna is mispointed by 0.2° or more"[3]; (3) apply "separate requirements . . . to the earth station off-axis antenna gain and to the power density at the antenna input" in lieu of the current "single limit applicable to the off-axis EIRP density"[4]; and (4) if the Commission continues to apply off-axis EIRP density limits to blanket licensing of ESVs, "make clear that, in evaluating whether an ESV transmit antenna satisfies the off-axis EIRP limit, it must be assumed that the antenna will be mispointed."[5]

Like Rule 25.222(a)(6)[6] – which requires that Ku-band ESV operators maintain "[a] pointing error of less than 0.2°"[7] – PanAmSat's requests are not only unnecessary and not useful, but they would impede technological innovation and advancement.[8] They are also squarely inconsistent with the Commission's sound policy judgment in the *ESV Order* "that adopting off-axis e.i.r.p.-density rules, *as opposed to adopting multiple operating restrictions that accomplish the same objective*, is the proper approach to ESV regulation . . . because, in addition to

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2 PanAmSat Petition at 1-2.

3 *Id.* at 3.

4 *Id.* at 5.

5 *Id.* at 6.

6 On March 2, 2005, ARINC filed a Petition for Reconsideration requesting that the Commission delete Rule 25.222(a)(6) and, in all events, not adopt such a pointing error rule in the markedly different circumstances of the recently-initiated Aeronautical Mobile Satellite Service ("AMSS") rulemaking. *See* ARINC Incorporated Petition for Reconsideration, IB Docket No. 02-10 (filed Mar. 2, 2005) ("ARINC Petition for Reconsideration").

7 47 C.F.R. § 25.222(a)(6).

8 *See generally* ARINC Petition for Reconsideration.

providing simpler service rules, this approach also provides maximum flexibility to ESV operators in implementing the two-degree spacing limits."[9] This is reason enough to dismiss or deny PanAmSat's Petition.

Moreover, the aggregate EIRP off-axis mask, by itself, fully controls the potential for interference and thus addresses each of PanAmSat's requests. In Rule 25.222(a)(1)-(4), the Commission defined the maximum permissible power from the ESV at every point in the geostationary arc East or West of the target satellite.[10] Hence, in its current form, the off-axis EIRP mask *fully accounts* for antenna mispointing and antenna gain patterns.[11] Separate pointing error and antenna gain rules are therefore entirely unnecessary, as are additional demonstrations or clarifications: If off-axis emissions do not violate the mask, there is no risk of harmful interference, regardless of the particular pointing error or gain pattern of the antenna.[12] Thus, as the Commission has already correctly concluded, "the off-axis e.i.r.p. limits in [the *ESV Order*] adequately protect adjacent satellite systems and ensure that ESVs do not cause harmful interference to adjacent FSS satellite operators."[13]

Indeed, ARINC has demonstrated through Monte Carlo simulations that the off-axis EIRP mask adequately protects adjacent satellites from the potential for harmful interference. In particular, it has shown that its SKYLink℠ system would keep aggregate off-axis EIRP density within the mask 99.999 percent of the time, taking into account, among other things, variation in

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9 *ESV Order* ¶ 14 (emphasis added). *See also id.* ¶¶ 2, 4 (recognizing the need for "enhanced rights and limited regulation" in the Ku-band and the Commission's "goals and objectives for market-driven deployment of broadband technologies").

10 ARINC Technical Appendix at 1 (attached to ARINC Petition for Reconsideration).

11 *Id.*

12 *Id.* at 2.

13 *ESV Order* ¶ 103.

earth station antenna patterns, pointing error, and inertial-navigation inaccuracy.[14] In doing so, ARINC fully and "adequately accounted for pointing error."[15] That is all that is necessary to protect against harmful interference.

In short, the aggregate off-axis EIRP mask serves fully to protect against harmful interference to adjacent satellite operators. The Commission's ESV rules require operators to comply with that mask; therefore, no additional demonstrations, rules, separate requirements, or clarifications are needed. To the contrary, any such modifications to the current rules would be in irreconcilable conflict with the Commission's well-informed policy conclusion "that adopting off-axis e.i.r.p.-density rules, as opposed to adopting multiple operating restrictions that accomplish the same objective, is the proper approach to ESV regulation."[16]

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[14] *ARINC Incorporated, Application for Blanket Authority for Operation of Up to One Thousand Technically Identical Ku-Band Transmit/Receive Airborne Mobile Stations Aboard Aircraft Operating in the United States and Adjacent Waters*, Order and Authorization, DA 05-1016, ¶ 25 (rel. April 6, 2005) ("*SKYLink Authorization*"). ARINC's SKYLink[SM] system is an existing and viable technology that, in addition to its use on aircraft, could satisfy the demands of businesses and consumers onboard marine vessels. SKYLink[SM]'s unique design allows it to be installed on corporate aircraft and could also be adapted to operate on personal vessels.

[15] *SKYLink Authorization* ¶ 41.

[16] *ESV Order* ¶ 14.

Conclusion

For the reasons set forth above, ARINC respectfully requests that the Petition for Reconsideration and Clarification filed by PanAmSat be dismissed or denied.

Respectfully submitted,

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April 21, 2005

CERTIFICATE OF SERVICE

I, Amy E. Bender, do hereby certify that a true and correct copy of the foregoing was sent by first-class mail, postage prepaid, this 21st day of April 2005, to the following:

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